

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

BIAGIO RAVO and ENRICO NICOLO,	)	
	)	
Plaintiffs,	)	Civil Action No. 11-1637
	)	
v.	)	Chief Judge Joy Flowers Conti
	)	
COVIDIEN LP,	)	
	)	
Defendant.	)	
	)	

**MEMORANDUM OPINION**

This is a patent infringement case in which inventors Biagio Ravo and Enrico Nicolo (“Ravo”) accuse Covidien LP (“Covidien”) of infringing United States Patent No. 6,117,148, entitled Intraluminal Anastomotic Device. (the “‘148 Patent,” located in the record at ECF No. 66-1.) The ‘148 Patent describes two embodiments of a surgical device that can be used to resect a section of bowel (or any hollow organ) through intussusception followed by anastomosis, in turn preventing the intraluminal contents from contaminating the body cavity. (ECF No. 54 at 1.)

The Special Master issued a Report and Recommendation (“R&R”) on claim construction on March 13, 2013, (ECF No. 48), to which the parties filed objections (ECF Nos. 49-52). In response thereto, the Special Master submitted a supplemental R&R to correct non-substantive matters and to reflect changes to the R&R agreed to by the parties. (ECF No. 53.) The court issued a Memorandum Opinion and Order setting forth its construction of the remaining disputed claim terms on June 27, 2013. (ECF No. 54.) That opinion set forth the applicable legal standards and factual background, which will not be repeated here. (Id. at 2-4.)

At the time of those claim construction proceedings, Ravo accused Covidien of infringing Claims 1-3, 5, 11-13, and 15-16 of the ‘148 Patent. (ECF No. 48-1.) Ravo added Claim 9 to the list of asserted claims when it served an Updated Disclosure of Asserted Claims and Infringement Contentions on Covidien in July 2013. (ECF No. 58 at 2 and 58-4 at 6.) Claim 9 recites “[t]he surgical device of claim 1 further including a band for attaching the lumen to said luminal attachment and intussusception means.” (ECF No. 66-1 at 12, terms previously construed by the court are underlined). Covidien objected to Ravo’s addition of a newly asserted claim by filing a motion to strike Claim 9. (ECF No. 57.) After considering the written submissions with respect to that motion, (ECF Nos. 57-59, 64), and the parties’ oral argument on the matter, the court denied Covidien’s motion. (11/6/13 Minute Entry.) The court permitted limited additional discovery, with costs shifted to Ravo, and ordered expedited additional claim construction briefing on two claim terms: (1) “surgical device;” and (2) “band.” (*Id.*; ECF Nos. 65-66, 71.) The court held an additional claim construction hearing on December 18, 2013. (12/18/13 Minute Entry.)

The court is now prepared to issue its construction of these additional disputed claim terms found in Claim 9 of the ‘148 Patent.

Term #1 – “surgical device”: *no construction required.*

Ravo asserts that no construction of the term “surgical device” is required because the term appears in the preamble and is not limiting. (ECF No. 66 at 7-8.) Ravo further contends that the term “surgical device” need not be construed because Covidien did not ask that the term be construed during the first round of claim construction even though it appears in the preamble of claims that were being construed by the court at that time, in the same, or a very similar

format. (Id. at 7.) If the term is to be construed, Ravo proposes that the term be defined as “a collection of structural elements.” (Id.)

Covidien contends that the preamble of Claim 9 must be construed at this juncture because “the scope of the preamble dictates whether Claim 9 generally covers bands, or only bands that are part of the tool.” (ECF No. 71 at 8.) Covidien proposes that the term be construed to mean “tool” because the ‘148 Patent uses the words “tool” and “device” interchangeably. (ECF No. 71 at 7.) Covidien asserts that, once the preamble is properly interpreted in this way, Claim 9 will only encompass bands that are part of the tool, which is consist with the court’s prior finding that a ligation member, one example of which is a band, is external to the device. (ECF No. 71 at 8.) Ravo objects to Covidien’s proposed construction on the ground that the words “device” and “tool” are not interchangeably used. (ECF No. 66 at 4, 9.) According to Ravo, the word “device” is used to “generally refer to the invention” while the term “tool” is used in the Brief Description of the Embodiments to “refer to a portion of the device.” (Id.)

The parties’ dispute with respect to this term purportedly implicates directly this court’s prior finding that those bands that are classified as ligation members are not part of the device. (ECF Nos. 66 at 9 and 71 at 6, 8-9.) As explained below, the court rejects this notion, and concludes that the term “surgical device” requires no construction.

The term subject to construction in Claim 9 is “surgical device,” as used in the phrase “[t]he surgical device of claim 1 further including...” ’148 Patent, 8:17. Every claim of the ‘148 Patent that depends in any way from Claim 1 uses the language “[t]he surgical device of [prior claim number] [‘further including’ or ‘wherein said’].” ‘148 Patent, 7:64, 8:1, 4, 7, 9, 11, 14, 17, 20. The court previously construed disputed claim terms in Claims 2, 3, and 5, which include this language. No party asked that the term “surgical device” be construed at that time. Contrary to

Covidien's contention, construction has not become necessary in order to preserve the court's prior ruling that "bands or sutures will not be included in the construction" of "luminal attachment and intussusception means." (ECF No. 54 at 10-11.) The court's prior opinion, and the court's construction of the term "band" immediately below, will address Covidien's concern. Construing the term "surgical device" to mean "tool" will not "preserve" this court's prior ruling.

Looking now to the language used in Claims 1 and 9, the court finds that it is typical of the structure used when drafting dependent patent claims. Dependent claims are a convenient way of "referring back to and further limiting another claim" in the same patent. 37 C.F.R. § 1.75(c); see also 35 U.S.C. § 112(d). In Claim 9 of the '148 Patent, the phrase "the surgical device of claim 1" follows the common and acceptable format and structure for incorporating by reference all the features of a prior claim into a dependent claim. Manual of Patent Examining Procedure, § 608.01(n)(IV) (reciting acceptable format for a singular dependent claim to be "the product of claim 1") (8<sup>th</sup> ed. 2012) ("MPEP"). Claim 1 claims "a **surgical** intraluminal resection and reconstruction **device** comprising" four structural elements, three of which are in means-plus-function format. '148 Patent, 7:52-53 (emphasis added). Claim 9, which depends from Claim 1, claims "the **surgical device** of claim 1" and adds one more structural element, i.e., "a band for attaching...." '148 Patent, 8:17-18 (emphasis added). The term "surgical device" in Claim 9 is a shorthand way of referring back to the four structural elements that comprise the same "surgical device" claimed in Claim 1, without having to restate each one. This is precisely the purpose of writing a claim in dependent form according to federal law and the MPEP.

There is no need to construe the term "surgical device" in the context of dependent Claim 9. It is a commonly understood dependent claim structure used to refer back to the invention claimed in Claim 1, and is not otherwise limiting.

Term #2 – “band”: *a continuous ring of material that is capable of expanding and contracting.*

Ravo proposes that the term “band” be construed to mean “a loop.” (ECF No. 66 at 10.) Covidien contends that the term should be construed to mean “continuous, expandable ring of flexible material that surrounds one or more objects (e.g. rubber band).” (ECF No. 71 at 9.)

In support of its claim construction position, Ravo explains that one of skill in the art would understand that the only way to not compromise the bowel wall is to “tie the ends of the ligation member [item 26] together to form a loop and to tighten it around the groove in the central post.” (ECF No. 66 at 10, 12.) Ravo also cites to two instances in the patent where the phrase “expandable band or loop” is used in order to prove that the terms are interchangeable. (Id. at 12, citing ‘148 Patent, 6:20 and 56.) For this reason, Ravo contends that “a ‘band’ is simply a loop.” (Id.)

Covidien argues that in the ‘148 Patent, bands are distinguished from other attachment mechanisms that have two ends, such as suture threads, expandable loops, noose loops, and purse-string sutures. (ECF No. 71 at 11, 12-16.) Although tying such latter items is one example in the patent of how to apply a “ligation member,” releasing a band to constrict tissue is another option. (Id. at 10-11.) According to Covidien, in this latter technique, the band must be continuous, expandable, and flexible in order to perform the stated function. (Id.)

Before proceeding with its analysis, the court must clarify that the ‘148 Patent refers to two different structural elements that can take the form of a band. The first is “the ligation member **26** which can be a conventional suture thread, a flexible band or the like.” ‘148 Patent, 4:3-4. The second is “an expandable band or loop **72**” that is an attachment mechanism used in conjunction with “a plurality of carrier arms” in one version of the second embodiment

of the device. ‘148 Patent, 6:12-13, 18-20, 54-56; Figs. 6 & 7; cls. 9, 10, 19. Yet the parties, at times, refer to these two kinds of bands interchangeably in their written claim construction submissions. For instance, Ravo freely substitutes these two different items in its opening claim construction brief, (ECF No. 66 at 10-12), despite having recognized in its brief opposing Covidien’s motion to strike Claim 9 that item 26 and item 72 are two different bands. (ECF No. 59 at 9-10.) The item 26 ligation member bands and the item 72 attachment bands are entirely different structural elements. The court’s prior claim construction opinion addressed the former, but not the latter.

In its prior claim construction opinion, this court found that the item 26 ligation member band was not part of the structure corresponding to the “luminal attachment and intussusception means.” (ECF No. 54 at 10-11.) The prior claim construction opinion did not address the item 72 attachment bands because Claims 9, 10, and 19, which claim the item 72 “bands for attaching” and “attachment bands,” were not asserted at the time the court issued that opinion. ‘148 Patent, 8:17-13, 60-63; (ECF No. 48-1.) Ravo now asserts Claim 9, which claims the item 72 attachment band. As such, any discussion in this court’s prior claim construction opinion regarding the item 26 ligation member band, including specifically its independence from the “device” claimed in the preamble of independent Claims 1 and 15, is separate and distinct from the court’s instant discussion of the item 72 attachment band claimed in Claim 9.

Having clarified this distinction between the item 26 and 72 bands, the court must now determine the appropriate construction to assign to the term “band,” as used in Claim 9. As an initial matter, the ‘148 Patent specifically distinguishes the item 72 attachment band from a loop, making Ravo’s proposed construction improper. The patent explains that a loop is a structure formed by using nylon thread to form a noose that can be pulled to tighten, thus acting

“substantially the same as the band.” ‘148 Patent, 6:61-7:9. The terms loop and band are not used interchangeably in the patent. The court rejects Ravo’s proposed construction on that basis alone.

Covidien proposes that the item 72 attachment band be described as “continuous,” “expandable,” and “flexible,” primarily so that it excludes structures such as tied suture threads, noose loops, and purse-string sutures. (ECF No. 71 at 9, 12-16.) First, the court rejects associating the term “flexible” with the item 72 attachment band. The ‘148 Patent uses the word “flexible” in conjunction with the term band only once; in reference specifically to the item 26 ligation member band. ‘148 Patent, 4:2-4. As such, the specification does not support including that word in the court’s construction of the item 72 attachment band.

In contrast, ten of the twelve times that the ‘148 Patent refers to the item 72 attachment band the adjective “expandable” immediately precedes it. In the two instances in which the item 72 attachment band appears without the adjective “expandable” it is nevertheless clear, from the context, that the item 72 attachment band is the same “expandable band” previously described. ‘148 Patent, 7:4-5, 34-36. The function performed by the item 72 attachment band confirms that “expandable” is a required feature of this band. The expandable band is released by operation of a latch on the carrier arms, thereby “pull[ing] the appropriate portions of the bowel between” parts of the device. ‘148 Patent, 6:18-22, 54-60. The item 72 attachment band must be expandable, and contractible, in order to perform that function. Because the specification consistently refers to the item 72 attachment band as expandable, and because the band must be expandable, and correspondingly contractible, in order to function as set forth in the patent, the court includes those characteristics in its construction of the term “band,” as used in Claim 9.

Next, the court agrees that the item 72 attachment band must be a continuous ring of material at the outset, as opposed to, for example, something created by tying the two loose ends of a string together. To reiterate, the ‘148 Patent distinguishes explicitly bands from loops, which are formed by tying together the ends of nylon thread. ‘148 Patent, 6:61-7:9, 7:16-18, 7:34-36. In the ‘148 Patent, bands are not created by tying things together; loops are. By implication then, bands must be a continuous ring of material from the outset.

Lastly, the court finds the remainder of Covidien’s proposed construction, i.e., “that surrounds one or more objects (e.g., rubber band)” is unnecessary and superfluous. The court previously construed the remaining language of Claim 9, which states that the item 72 band is for “attaching the lumen to said luminal attachment and intussusception means,” as well as other relevant claim terms found in independent Claim 1. ‘148 Patent, 8:17-19; (ECF No. 54.) These constructions give adequate meaning and context to the item 72 attachment band. Much of Covidien’s evidence in support of including these additional limitations misses the mark as it refers to the item 26 ligation member band and not the item 72 attachment band. (ECF No. 71 at 11-12.) Covidien failed to demonstrate that these additional limitations must be included in order for the jury to understand the proper scope of Claim 9. The court independently finds no such necessity.



Therefore, the court adopts the following additional claim constructions, which shall supplement the court's prior claim construction opinion, ECF No. 54.

“surgical device”: *no construction required.*

“band”: *a continuous ring of material that is capable of expanding and contracting.*

An appropriate order shall be filed contemporaneously with this memorandum opinion.

Dated: January 16, 2014

BY THE COURT,

/s/ Joy Flowers Conti

Joy Flowers Conti

Chief United States District Judge